

**FEDERAL COMMUNICATIONS COMMISSION
APPLICATION FOR SPECIAL TEMPORARY AUTHORITY**

Applicant Name

Name of Applicant: NIAR

Address

Attention: Jeff Phillips
Street Address: Building 13L
P.O. Box: 67210
City: Wichita
State: KS
Zip Code: 67210
Country:
E-Mail Address: jphillips@niar.Wichita.edu

Best Contact

Give the following information of person who can best handle inquiries pertaining to this application:

Last Name: Phillips
First Name: Jeff
Title: Senior Research Engineer
Phone Number: 3162957446

Explanation

Please explain in the area below why an STA is necessary:

As part of the process to FAA certify, aircraft platforms tests are required to assess the aircrafts immunity to interference caused by external Radio Frequency (RF) signals. The test methods used to assess the coupling to the aircraft cover the frequency range from approximately 1 MHz to 18 GHz.

Purpose of Operation

Please explain the purpose of operation:

Aircraft platforms tests are required to assess the aircrafts immunity to interference caused by external Radio Frequency (RF) signals. As part of the design of the aircraft, engineering judgments are made to determine the expected coupling of the external fields onto the components of each aircraft system. 2. This expected coupling is then used to set bench-test levels to which the system manufacturer is required to test their individual system for susceptibility. Once the aircraft has been built, measurements are made to determine the actual coupling of the fields to the aircraft systems. If these measurements show that the levels measured are below those predicted, i.e., the design assumptions were correct, then the bench-testing is considered to be sufficient to certify the aircraft. If not, any shortfall (which may not cover the whole frequency bands) can be supplemented either by further bench testing or by on-aircraft susceptibility testing.

Information

Callsign: WL9XUJ
Class of Station: FX MO
Nature of Service: Experimental

Requested Period of Operation**Operation Start Date:** 10/01/2017**Operation End Date:** 03/31/2018**Manufacturer**

List below transmitting equipment to be installed (if experimental, so state) if additional rows are required, please submit equipment list as an exhibit:

Manufacturer	Model Number	No. Of Units	Experimental
,	3109	1	No
ETS Lindgren	3115	1	No
ETS Lindgren	3106B	1	No
NIAR	Dipole 1	2	No

Certification

Neither the applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. The applicant hereby waives any claim to the use of any particular frequency or electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended.) The applicant acknowledges that all statements made in this application and attached exhibits are considered material representations, and that all the exhibits part hereof and are incorporated herein as if set out in full in this application; undersigned certifies that all statements in this application are true, complete and correct to the best of his/her knowledge and belief and are made in good faith. Applicant certifies that construction of the station would NOT be an action which is likely to have a significant environmental effect. See the Commission's Rules, 47 CFR1.1301-1.1319.

Signature of Applicant (Authorized person filing form): Matthew R Wills**Title of Applicant (if any):** Senior Research Engineer**Date:** 2017-08-07 00:00:00.0**Station Location**

City	State	Latitude	Longitude	Mobile	Radius of Operation
Wichita	Kansas	North 37 41 15	West 97 13 15		2.00

Datum: NAD 83**Is a directional antenna (other than radar) used?** No**Exhibit submitted:** No**(a) Width of beam in degrees at the half-power point:****(b) Orientation in horizontal plane:****(c) Orientation in vertical plane:**

Will the antenna extend more than 6 meters above the ground, or if mounted on an existing building, will it extend more than 6 meters above the building, or will the proposed antenna be mounted on an existing structure other than a building? No

(a) Overall height above ground to tip of antenna in meters:**(b) Elevation of ground at antenna site above mean sea level in meters:****(c) Distance to nearest aircraft landing area in kilometers:**

(d) List any natural formations of existing man-made structures (hills, trees, water tanks, towers, etc.) which, in the opinion of the applicant, would tend to shield the antenna from aircraft:

Action	Frequency	Station Class	Output Power/ERP	Mean Peak Frequency Tolerance (+/-)	Emission Designator	Modulating Signal
New	30.00000000-38.00000000 MHz	FX	N/A 15.200000 W		NON	
New	38.25000000-73.00000000 MHz	FX	N/A 15.200000 W		NON	
New	76.00000000-87.90000000 MHz	FX	N/A 15.200000 W		NON	
New	102.90000000- MHz	FX	N/A 15.200000 W		NON	
New	103.10000000- MHz	FX	N/A 15.200000 W		NON	
New	411.00000000-500.00000000 MHz	FX	N/A 15.200000 W		NON	
New	500.00000000-608.00000000 MHz	FX	N/A 1.200000 W		NON	
New	540.00000000-2173.00000000 kHz	FX	N/A 15.200000 W		NON	
New	614.00000000-960.00000000 MHz	FX	N/A 1.200000 W		NON	
New	1427.00000000-1434.00000000 MHz	FX	N/A 1.200000 W		NON	
New	1526.00000000-1550.00000000 MHz	FX	N/A 1.200000 W		NON	
New	1610.00000000-1660.50000000 MHz	FX	N/A 1.200000 W		NON	
New	1670.00000000-2309.00000000 MHz	FX	N/A 1.200000 W		NON	
New	2191.00000000-2495.00000000 kHz	FX	N/A 15.200000 W		NON	
New	2400.00000000-2690.00000000 MHz	FX	N/A 1.200000 W		NON	
New	2505.00000000-4995.00000000 kHz	FX	N/A 15.200000 W		NON	
New	3010.00000000-4990.00000000 MHz	FX	N/A 1.200000 W		NON	
New	5005.00000000-9995.00000000 kHz	FX	N/A 15.200000 W		NON	
New	5600.00000000-8090.00000000 MHz	FX	N/A 1.200000 W		NON	
New	9225.00000000-10680.00000000 MHz	FX	N/A 1.200000 W		NON	
New	10005.00000000-13360.00000000 kHz	FX	N/A 15.200000 W		NON	

Action Frequency	Station Class	Output Power/ERP	Mean Peak Frequency Tolerance (+/-)	Emission Designator	Modulating Signal
New 10700.00000000-15350.00000000 MHz FX		N/A 1.200000 W		NON	
Action Frequency	Station Class	Output Power/ERP	Mean Peak Frequency Tolerance (+/-)	Emission Designator	Modulating Signal
New 15400.00000000-18000.00000000 MHz FX		N/A 1.200000 W		NON	
Action Frequency	Station Class	Output Power/ERP	Mean Peak Frequency Tolerance (+/-)	Emission Designator	Modulating Signal
New 25670.00000000-29999.99000000 kHz FX		N/A 15.200000 W		NON	

City	State	Latitude	Longitude	Mobile	Radius of Operation
Wichita	Kansas	North 37 37 39	West 97 16 39	Wichita, KS	2.50

Datum: NAD 83

Is a directional antenna (other than radar) used? Yes

Exhibit submitted: No

(a) Width of beam in degrees at the half-power point: 100.00

(b) Orientation in horizontal plane: 90.00

(c) Orientation in vertical plane:

Will the antenna extend more than 6 meters above the ground, or if mounted on an existing building, will it extend more than 6 meters above the building, or will the proposed antenna be mounted on an existing structure other than a building? No

(a) Overall height above ground to tip of antenna in meters:

(b) Elevation of ground at antenna site above mean sea level in meters:

(c) Distance to nearest aircraft landing area in kilometers:

(d) List any natural formations of existing man-made structures (hills, trees, water tanks, towers, etc.) which, in the opinion of the applicant, would tend to shield the antenna from aircraft:

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Action Frequency	Station Class	Output Power/ERP	Mean Peak Frequency Tolerance (+/-)	Emission Designator	Modulating Signal
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Action Frequency	Station Class	Output Power/ERP	Mean Peak Frequency Tolerance (+/-)	Emission Designator	Modulating Signal
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